

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated February 3, 2006 has been received and its contents carefully reviewed.

In the Office Action, claims 1-2 and 11 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,247,191 to Yamazaki in combination with U.S. Patent 6,480,253 to Shigeta, U.S. Patent 5,891,804 to Havemann, and U.S. Patent 5,660,706 to Zhao. Claims 3, 6, and 9 are rejected under 35 U.S.C. §103(a) as being unpatentable over the references cited above and further in view of U.S. Patent 6,284,652 to Charneski and U.S. Patent 3,632,435 to Eriksson. Claims 4-5, 7, 8, and 10 are rejected under 35 U.S.C. §103(a) as being unpatentable over the references cited above and further in view of U.S. Patent 5,364,459 to Senda. Claims 12 and 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over the references cited above and further in view of JP 265040 and the admitted prior art. Applicant respectfully traverses these rejections.

The Examiner alleges that Zhao discloses “a surface including the surface of the dielectric 56 and the copper 52c is planar” in FIGs. 12 and 13; however, Applicant respectfully disagrees. The top, upper end of FIGs. 12 and 13 of Zhao is not a surface but rather a cut line taken along a line of what is in fact a larger structure. In other words, these figures illustrate the inner portion of an actual structure.

Applicant notes that the end lines of Zhao’s FIGs. 12 and 13 are not a straight line, implying that the structure shown in Zhao’s of FIGs. 12 and 13 is but a portion cut from an interior of a larger complete structure. By contrast, the top end line of Zhao’s FIG. 11 is a straight line and the other three ends of Zhao’s FIG. 11 are not a straight line, indicating that the structure of Zhao’s FIG. 11 is a portion cut from a top surface of an actual structure. FIG. 11

relates to an opening of a structure, while FIGs. 12 and 13 relate to a via-opening of a structure. The via-opening represents a through-hole in an interlayer inside the structure, while an opening represents a hole in an outer layer exposed to an exterior of the structure.

Thus, Zhao can not disclose or suggest “a surface including the surface of the substrate and the surface of the first metal is substantially planar” as recited in claim 1, because as noted above, FIGs. 12 and 13 of Zhao illustrate only a cross section portion of the structure - the top, bottom, left and right ends of the in Figs. 12 and 13 are not the actual ends of the structure. Accordingly, Zhao does not disclose or suggest “a surface including the surface of the dielectric 56 and the copper 52c is planar,” as alleged by the Examiner, and likewise Zhao does not disclose, teach or suggest “a surface including the surface of the substrate and the surface of the first metal is substantially planar” as required by claim 1. This deficiency in Zhao is not supplied by any other cited reference, including Yamazaki, Shigeta, Havemann, Charneski, Eriksson, Senda, JP 265040 or the admitted prior art.

Accordingly, none of the cited references, considered separately or in combination, discloses or suggests all of the elements recited in claim 1, including, for example, “the first metal on the second metal is at substantially the same height as the substrate, and wherein a surface including the surface of the substrate and the surface of the first metal is substantially planar”. None of Yamazaki, Shigeta, Havemann, Zhao, Charneski, Eriksson, Senda, JP 265040 or the admitted prior art disclose or suggest this element.

Applicant believes the foregoing discussion places the application in condition for allowance and early, favorable action is respectfully solicited.


If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps

necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

Dated: April 28, 2006

Respectfully submitted,

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